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FROM THE EDITOR | JOHN DIX

Senate leaves us at risk

The Senate failed to muster enough votes to pass the watered-down Cybersecurity Act of 2012 (S. 2105) earlier this month, which reminds me of the line by Col. Nathan R. Jessep in the movie "A Few Good Men": "All you did was weaken a country today . . . That's all you did. You put people's lives in danger."

Overly dramatic? Hardly, given it is common knowledge that enterprises, institutions and government agencies are being hammered by increasingly focused and sophisticated attacks by nation-states. The bill had the backing of many key military figures and national security officials.

As originally proposed, S. 2105 would have required the Department of Homeland Security to, in a nutshell, figure out which operators of critical national infrastructure should be required to meet new security standards, figure out how to hold those operators accountable, and finally require "the private sector and the federal government to share threats, incidents, best practices, and fixes, while maintaining civil liberties and privacy."

(This Senate bill isn't to be confused with the House's Cyber Intelligence Sharing and Protection Act, CISPA, which traded away too many personal liberties in the name of security [see tinyurl.com/c5ekgdm] and was just voted down.)

Even though the sponsors of S. 2105 lifted the mandatory requirements of the bill in a last-minute effort to get it passed, only 52 senators voted for it, short of the 60 votes needed.

That leaves us all at risk.

"I can't think of a more urgent issue facing this country," Commerce Committee Chairman Jay Rockefeller, D-W.Va., said of the bill. "Hackers are stealing information from Fortune 500 companies, breaking into the networks of our government and security agencies and toying with the networks that power our economy."

And not just any hackers, says Peter George, CEO of Fidelis Security Systems, which has 40 government agencies on its customer roster. Enterprises used to be fighting hackers down the street, he says, and now they're fighting nations with dedicated national security agencies. "That's who they have to keep out of their network, and they need our country to help them. The federal government has insight to that threat vector that commercial CSOs don't have."

Should we be surprised that the government failed to address this critical issue? Not after what we learned last December when it appeared an Illinois water utility was hacked (see tinyurl.com/8kxao3g).

While that incident turned out to be a false alarm, our glacial response to the apparent problem showed we haven't even ironed out the escalation processes for infrastructure events, let alone shown a willingness and ability to tackle the much bigger problem of addressing the inadequacies of infrastructure security.

Unfortunately, it is increasingly clear that the government won't get this done until something catastrophic happens.

John A. Dix

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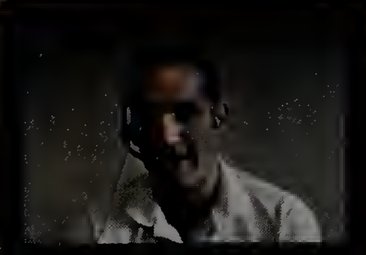
bits

IT employment gains hit four-year high

THE U.S. GAINED 18,200 IT-related jobs last month, the largest monthly increase since 2008, according to Foote Partners. Of that number, roughly 4,900 new IT jobs were added in the telecommunications and data processing/hosting sectors, and 13,300 were added in management/technical consulting services and computer systems design/services. "The overall employment situation in the U.S. is lackluster, in fact this is the fifth consecutive month of subpar results," says David Foote, CEO at Foote Partners, which has been tracking IT labor trends since 1997. "But the fact that more than 18,000 new jobs were created last month for people with significant IT skills and experience — and nearly 57,000 new jobs added in the past three months — is incredibly good news." ***tinyurl.com/btgfjmy***



IT VIDEO

Security Threat Landscape

Keith Shaw talks with Derek Manky from Fortinet about the latest SCADA threats, exploits for Windows Gadgets and Sidebar, and the looming threat of mobile malware via NFC. ***tinyurl.com/8raucbf***

SDN startup emerges from stealth mode

PLUMGRID, WHICH bases its product line and business model on software-defied networking concepts, last week announced $10.7 million in Series A funding from US Venture Partners and Hummer Winblad Venture Partners. The company will establish a beachhead in network virtualization and then branch out into other areas of programmable networking, says CEO Awais Nemat, a former Marvell Semiconductor and Cisco executive and engineer who founded PLUMgrid in early 2011 with two other former Cisco engineers. "The silicon and systems ecosystems are well-established," Nemat says. "But the software and the applications that go on top are a big void, and that's where we fit in. That's the problem we are trying to solve." ***tinyurl.com/cqwxfk8***

Facebook's post-IPO brain drain

FACEBOOK CONFIRMED that four high-ranking managers resigned from the company within the last few weeks, further fueling speculation that the social networking giant may suffer a brain drain in the wake of its IPO. The departing Facebook officials are: Ethan Beard, director of platform partnerships; Kate Mitic, platform marketing director; Jonathan Matus, mobile platform marketing manager; and Ben Blumenfeld, design manager. In public blog posts, all indicated that they liked working at Facebook, but wanted to pursue entrepreneurial opportunities. ***tinyurl.com/9gccv4t***

Sensitive data finds way to cloud

ROUGHLY HALF of 4,000 IT and security professionals polled say they use external cloud-based services for sensitive or confidential data — but their approaches to encrypting data in the cloud vary widely, according to research from Ponemon Institute. Among respondents, 38% say their organizations rely on encryption of data as it's transferred, typically over the Internet, to the cloud; 35% say their organizations encrypt data before it's transmitted to the cloud provider; and 27% perform encryption within the cloud environment (16% selectively encrypt at the application layer and 11% let the cloud provider encrypt stored data as a service). ***tinyurl.com/c6shtot***

Privacy flap costs Google $22.5 million

GOOGLE WILL pay a historic fine to settle U.S. government charges that it violated privacy laws when it tracked users of Apple's Safari browser via cookies. The $22.5 million civil penalty is the largest ever secured by the U.S. Federal Trade Commission for a violation of one of its orders. ***tinyurl.com/8ecw6av***

Ready-to-wear tech

DEMAND FOR real-time data, including personal health information, is driving the market for wearable, wireless devices that will grow from 14 million items this year to as many as 171 million in 2016. Much of today's devices are concentrated around healthcare and wellness applications, such as glucose and heart rate monitors. In the future, devices for personal entertainment — such as Google's Smart Glasses and the rumored Apple Smart Watch — and military use will increase dramatically. "A $6 billion market in 2016 is our most conservative forecast," says Theo Ahadome, senior analyst at IMS Research. ***tinyurl.com/bvs2pmq***

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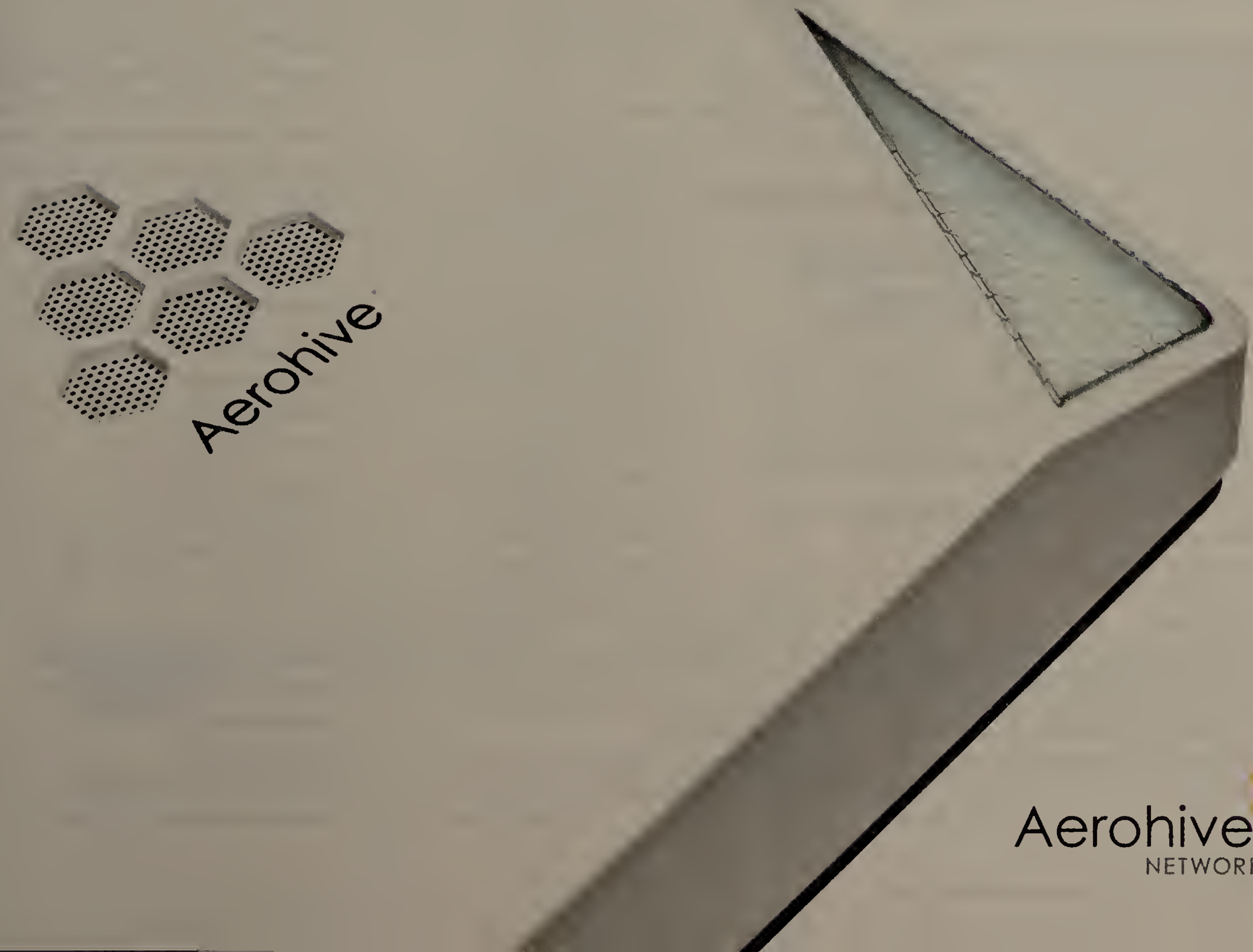

peersay

Reality check on cloud security

I THINK THE mentality about the cloud today is much the same mentality that we had regarding our neighbors in the '50s. We left our doors unlocked at night, didn't even think about alarm systems, and the "really bad people" didn't live in our neighborhood (Re: "Wozniak: Cloud could create 'horrendous' problems"; tinyurl.com/9sxc2ff).

Little did we know, but the only thing that really changed since then is our mentality. The bad guys existed, but we chose to ignore it because "that won't happen in my neighborhood," and if it did it was chalked up to a one-time event that won't happen again.

Only after bad things started happening and we heard about them on a regular basis did we start locking our doors, installing alarm systems, and being more aware of who our neighbors really were.

The "cloud solution" will progress in much the same way. We're still in the "Ozzy and Harriet" stage right now but it's really more of a "Law and Order" world, just the marketing people are keeping the "bad news" from getting around.

Dan Linder

'Alternatives' to iPad, not 'killers'

STOP SAYING "IPAD killer." Stop it stop it stop it! No one believes this product is intended to "kill" anything, so why continue saying such things (Re: "Google Nexus 7 pre-order buyers miffed retailers selling Android tablets first"; tinyurl.com/95392vm)?

Is it so you can later deem the device a "failure" when Apple does not crumble under the weight of Nexus 7 sales? Is it a cheap name drop of a certain company and/or its products to get more hits to the page?

To all news people and bloggers: There's nothing wrong with alternative products and choice. We don't all have to drive Toyota to be happy drivers and we don't all have to buy Apple to be happy users.

End of line.

Chris Fricke

Stop saying 'iPad killer.' No one believes this product is intended to 'kill' anything.

M&A's signal OpenFlow's ascent

"VIRTUALIZATION HAS BECOME the new iron." That's the best I've heard it phrased and it really does represent many new opportunities. So much really does get left to the server team (Re: "VMware's Nicira acquisition represents new threats and new opportunities for network managers"; tinyurl.com/clmz2lh).

I'm actually the server team but a few months ago I started coming across more OpenFlow stuff and then found I already had one of Intel's whitepapers on consolidating networking on Xeon. Since then I've followed the E5, I I/O and DDIO. I've been in a Cisco training for the past year but haven't heard anything about OpenFlow despite asking. I feel like I'm the only person in the class that's heard about it. Then Oracle bought Xsigo. It does seem like things are taking off.

MichaelADeBose

On Turing: Credit where it is due

THANK YOU, JON, for the proper credit/respect to Alan Turing and his team! Sadly Turing couldn't enjoy his proper due (nor his proper lifespan — much less his proper freedoms) while alive (Re: "Cerf: Secret wartime projects drove 'incredible' advances"; tinyurl.com/7hlh8go).

I was a student, protege and collaborator of Jack Good in my college years. (Dr. Good was Turing's protege, Bletchley Park Hut co-worker, and friend who carried Turing's mission forward post-mortem.) Between Turing and Nikola Tesla, the world is waking up to the genius, inspiration and debt owed to these pioneers who were robbed of "their due," then forced into shamed exile simply because they weren't "socially acceptable." In the words of Good himself in October 1990 in Radford, Va.: "We cannot correct history, but perhaps we can fold the future forward onto itself until the wrongs self-right."

(NOTE: It was my son who was Dr. Jack Good's student, not me.)

Cindy Griffith

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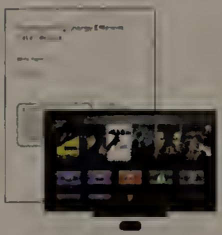

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Microsoft overhauls enterprise Office and SharePoint app development

BY TIM GREENE

WITH THE introduction of Office 2013 Preview, Microsoft has overhauled how business developers write Office and SharePoint applications and how users access them while giving IT administrators the ability to control which applications are available to users.

This new cloud application model embraces common Web languages for writing code and includes online stores for purchasing the applications. At the same time, IT professionals are given control over whether users have access to the entire store or whether they can reach just those apps that have been selected and set aside in a corporate catalog, says Richard Riley, a director in Microsoft's Office division.

This friendlier application development environment will encourage enterprise customers to do more of their own development rather than relying on apps in stores, says Jim McGregor, president of Tirias Research, because they have the resource to hire developers. "They'll develop apps that do exactly what they need them to do and what their customers need them to do," he says.

He sees Microsoft adopting Google's model of opening up app development to everybody and giving them away or selling them inexpensively.

But getting existing business customers to buy into Office 2013 so they can take advantages of these new development possibilities may be a tough sell, says Paul DeGroot, principal consultant with Pica Communications. Corporations that standardized on Office 2003 and bought perpetual licenses could still be using it at no annual cost, he says. Buying Office 2013 means an investment and disruption.

He says he is aware of many Office customers who have bought perpetual licenses for Office 2010, have installed it and are happy to leave it in place. "They're not renewing it," he says, "they own it. They don't want to do another Office install for five years, and Microsoft will make no money off that."

One danger of these new apps is that there are no guarantees that they will be compatible with the next version of Windows, meaning customers may have to decide to stick with an older OS that supports their apps or switch to a new OS that requires new apps, DeGroot says.

"As the application developer using Web APIs, what you have is a very fast-moving environment tied to a product that gets rewritten every three years and changes slowly, but when it does change it changes big-time," he says.

App challenges in the cloud

Businesses shouldn't allow the glitz of the new Office apps model blind them to possible downsides.

Pros

- Uses common Web languages (HTML5, JavaScript, CSS3)
- Users can install apps quickly and without IT intervention
- IT can monitor, allow and block apps usage
- Developers get an 80% cut of apps prices

Cons

- Requires 2013 versions of Office and SharePoint
- No guarantee apps will be compatible with next Windows OS
- License terms, prices may vary greatly among third-party developers
- IT must review apps to establish a business-appropriate catalog for users

The problem for Microsoft is that it makes more money from Office than it does from Windows, but applications are moving to the Web, DeGroot says, so it needs a Web-based revenue stream. This new cloud app model can help attract users to Office-related Web services.

In keeping with this model, the applications actually run in the cloud and render them to the particular file on a user's machine.

In addition, these Web applications are inserted in Office apps and SharePoint, gathering and manipulating data and formatting it. For example, apps for Excel can gather data from the Internet, enter it in a spreadsheet, and also present it in graphs, charts and maps. Apps for Word can gather data from the Internet based on keywords designated in documents, and that data can be linked to the document so when the document is shared colleagues have access to the same external data.

These new applications can appear in Office applications and SharePoint as task panes within documents or they can be inserted online. Individual applications can also be strapped together to create more complex applications.

By virtue of being in the cloud, applications used to create documents can be linked to the document. So if an app has been used to create a chart based on data gathered on the Web and entered in an Excel spreadsheet, the document can be sent to other people and they can work on it using the same application to gather updated information. Because the application is in the cloud, the recipients of the document don't have to be running the app locally, just have access to the app in the cloud.

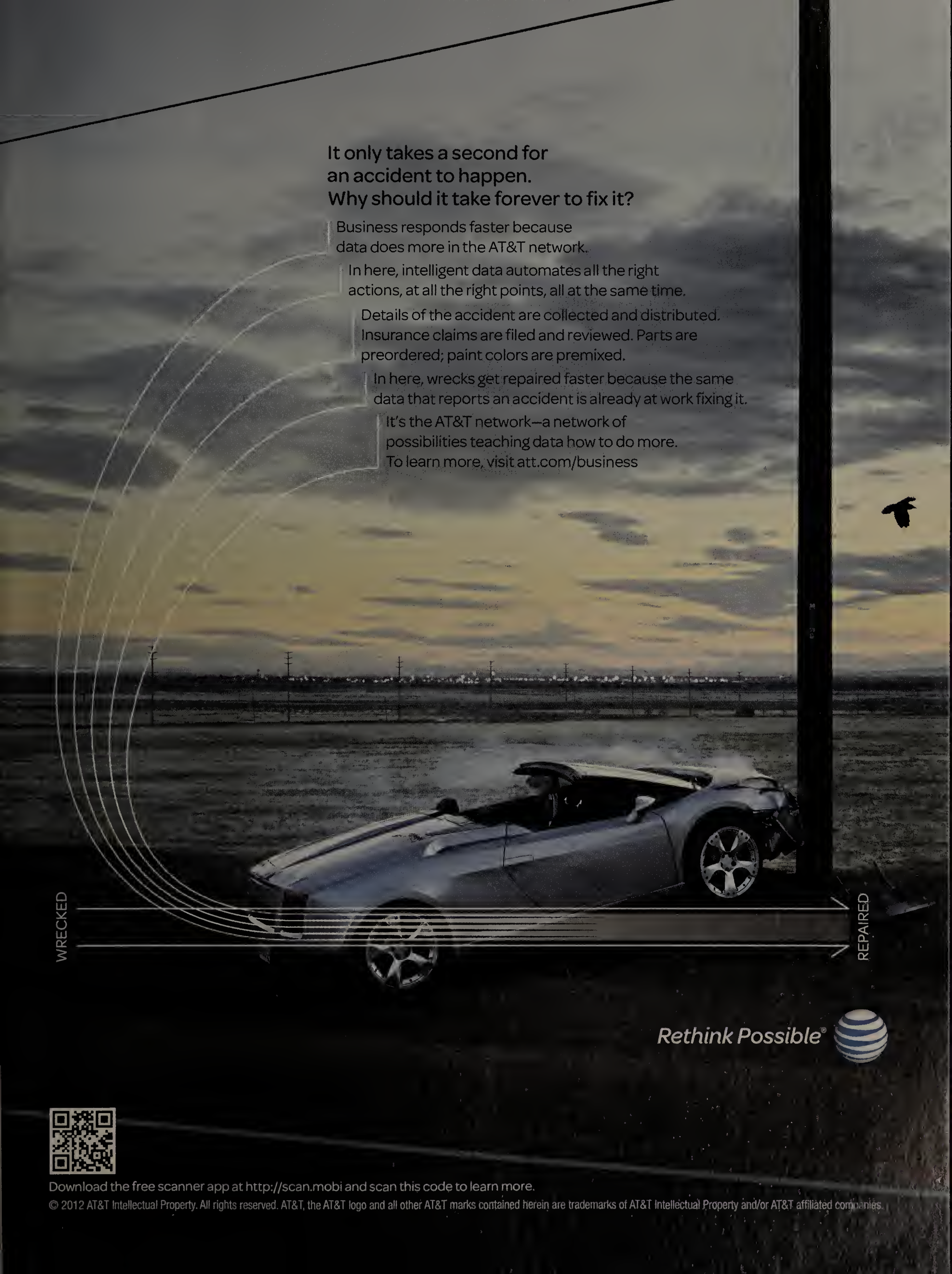
The example Riley uses is that of an application written to go along with the Olympics called Medal Tracker. It gathers current online data about medals awarded at the games in London and presents it in a task pane within an Excel spreadsheet. The data is also entered in the spreadsheet itself. A separate app called Bubbles takes the same data about the medals and represents the number of medals won by country with larger or smaller circles that are proportional to the number of medals won. A third app called Bing Maps can portray proportional circles on a map to show the location of countries that have won medals and give an idea of how their haul stacks up to others.

These new apps can be written using HTML5, JavaScript, CSS3 and others that are familiar to Web developers.

The same cloud application model applies to SharePoint, and there is a separate SharePoint app store as well.

Developers can sell apps at the Office and SharePoint stores at an 80-20 split, with developers getting 80%. Developers can also set the price within a range to be determined later and the licensing conditions, Riley says.

Expanding the pool of Office and SharePoint developers by using Web programming could lead to new applications that Microsoft didn't think of, DeGroot says, and that require customers to buy the new Office in some form that has the Web APIs. "It's really critical that they not move the entire application to the Web," he says, but having businesses subscribe to Office would be good for revenues. "Subscriptions will generate long-term revenue streams which they are not guaranteed with perpetual licenses," he says. ■



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Inside the IT challenges of sports, entertainment

BY BRANDON BUTLER

BOSTON — At the same time sports and entertainment organizations are being inundated with data, they're trying to figure out how to boost connectivity within their venues, as well as how to monetize the treasure trove of attendee information.

Arizona State University is a good example of what many organizations are going through. Associate Athletic Director Steve Hank says it's been a "walking disaster" attempting to coordinate communications to the various attendees of ASU events. Different departments within the massive, 70,000-plus person university system each independently handle undergraduate, graduate, alumni and donor communications. "We were literally all over the place in attempting to communicate with these people," at least until recently, Hank said last week at SEAT 2012, a conference of sports IT professionals.

A newly integrated CRM tool designed by SSB Consulting within the last half-year, Hank says, has allowed a correlated communications platform to emerge. Now, Hank in the athletics department can track the football season-ticket holder, who also happens to be a W.P. Carey School of Business graduate and a major alumni donor, to tailor in-game experiences specifically for him, such as having the business school dean stop by his section. "To give them relevant communications that are going to mean something to them, you need to know who they are," he says.

On the other end of the spectrum is John Anderson, vice president of technology for the Minnesota Twins, who in the last two years built the Target Field stadium. When constructing the facility, he says the directive from management was a simple one: "The only things that have to work are the cellphones in the stadium," he recalls being told, only half-jokingly. Anderson and the Twins contracted with a third party to install a Distributed Antenna System (DAS) that allows connectivity with the major cellphone network providers. "When you come to the game, we better be able to connect you on your phone, because if we don't do that you might think twice about coming to a game the next time," he says.

Whether it's handling the vast data gathered from ticket sales, merchandise purchasing or concession stand transactions, or allowing fans to have full bars of service so they can update their Facebook friends on the latest home run, technology demands are increasing exponentially for sports and entertainment CIOs and CTOs, says Chris Dill, one of the coordinators of SEAT 2012. And it's one of the reasons the Sports and Entertainment Alliance in Technology group was founded six years ago: to bring together team, league and venue owners, operators and partners to discuss strategy and planning.

Operators of venues like the 2-year old Target Field, home of the Minnesota Twins, are exploring a variety of new technologies to keep the fans coming back every night.

Managing the fans

CRM tools are fairly standard throughout Major League Baseball, says Ben Roller, director of the San Diego Padres' CRM system. But it's one thing to have a CRM system and it's another thing for it to be used to its fullest potential, he says. The Padres implemented the CRM software a few years ago, but for the first six months, Roller says, what they had was not much more than a "glorified phone book." After training the sales staff to use the software and integrating legacy data into the system, it has now become integral to the Padres' operations, he says.

Major League Soccer is attempting to set up a similar CRM system for all of its franchised teams, says Charlie Sung Shin, marketing manager for the league. A first step though, he says, is to organize the massive amount of data the teams have. "CRM systems have to be built on top of a data source," he says. "Without the data they're useless." To that end, MLS is developing a centralized customer data warehouse to store fan data for all teams. Once the data is collected, there are tools to manage it, such as Salesforce.com or Microsoft SharePoint.

Getting user adoption of these CRM systems can be a challenge, says Mark DiMaurizio, vice president of technical solutions for Comcast Spectacor, which handles the CRM for Philadelphia-area professional sports teams, including the 76ers and Flyers. "Salespeople are motivated by one thing," he says. "If you can prove to them these CRM tools can lead to a higher turnover of leads into sales, that should be enough motivation for them."

Maximizing the fan experience

Motivating fans to pay ever-increasing prices on tickets, merchandise, food and beverages is a whole other issue. Part of the push by stadium owners is to equip their venues with DAS and Wi-Fi networks to improve the fan experience, which involve installing a series of antennas around the stadium to provide cellphone coverage in a defined area. While DAS networks are becoming more common, increasingly fans will be looking for Wi-Fi connectivity at the games and, as of now, the two require separate systems because Wi-Fi requires a denser antenna placements, says Deb Bialecki, corporate account manager for Cellular Specialties Inc. (CSI), which installs DAS, Wi-Fi and public safety systems. The DAS systems are typically paid for by the cellphone carriers themselves, by the venue owner or by a third party, such as CSI, which then leases the network to the carriers.

But a Wi-Fi network comes with a whole other set of issues — most notably, cost. David Payne, who runs IT for the athletics department at the University of Oklahoma, predicts it could cost between $2 million and $4 million to install a Wi-Fi network on top of the DAS system already installed in his football and basketball stadiums.

Katee Panter, vice president of infrastructure technology at Madison Square Garden, oversees a three-year project to install 435 access points throughout the arena of both the New York Knicks and the Rangers, which will support 8,000 concurrent users per game, all while events are going on. "It's like building a runway while trying to land a plane," she says. Even as venue operators install such upgrades, soon they will not see them as a perk — instead they will just expect to be able to stream video over a Wi-Fi network on their tablet while watching the game at the stadium.

This is why Dill, the SEAT coordinator, says venue owners have to keep embracing newer technology. There is increased competition from their own teams as advancements continue to be made in the television broadcasts of games. RFID (radio frequency identification) ticketing, for example, can ease stadium entry and expedite concession stand purchases. Fan-specific statistics can be displayed directly to the seats of season-ticket holders, and apps that allow fans to hear the play calls between the coach and the quarterback are amenities SEAT is excited to explore. ■

Hospital networks take key role in healthcare

BY FRED O'CONNOR, IDG NEWS SERVICE

THE HEALTHCARE industry's increased use of electronic medical records (EMRs), wireless medical devices and personal mobile technology has turned hospital networks into important components in patient treatment. Practicing medicine now requires maintaining constant wireless connectivity and possibly managing wired network traffic if doctors and nurses are to fully leverage health IT according to healthcare professionals.

As IT's role in healthcare expanded from basic tasks on desktops to the more complex functions involving EMRs and clinical care, the network's importance grew, says Jon Morris, CIO and senior vice president, of the WellStar Health System, which operates hospitals, urgent care centers and medical practices in the Atlanta area.

"When we first started out doing relatively simple tasks the technology worked great," says Morris, who has served as an emergency department physician at WellStar Kennestone Hospital for 26 years. Health IT has advanced "a long ways from the days when you had a single lab test flipping up on the screen," he says.

Now networks carry EMRs as well as the extensive amounts of clinical data that they store. Wi-Fi allows wireless blood pressure cuffs to automatically transfer readings to a patient's chart and permits doctors to view lab results on their iPad. Wired networks also play a role in health IT and handle large radiology image files and ensure backup connectivity between hospitals and data centers.

"A critical piece of rolling out an EMR is the network environment," says Jack Kowitt, executive vice president of business development at health IT consulting firm Anthelio. With EMRs every transaction and data exchange passes through the infrastructure and that places unprecedented capacity and quality demands on the network, he adds.

This infrastructure allows medical staff at Eastern Maine Healthcare Systems' hospitals, nursing homes and physician groups to access and update patient EMRs across the organization, says Cathy Bruno, its CIO and vice president.

"To have a single unified electronic patient record across all our locations, so that information is available no matter where our patients access care, we need network connectivity," she says. "It would be impossible without network connectivity."

This connectivity comes at a costly price, says Morris. Developing reliable networks means expensive revamps of existing facilities.

Even the slightest network delays can turn physicians against health IT and ultimately hinder their ability to practice medicine, Kowitt says. "If it takes five seconds to get a reply they're not going to like the wait," he says. "And those five seconds accumulate and it's going to impact their productivity."

At Eastern Maine Healthcare, clinical and hospital staff associate wireless mobility with productivity. Last year Bruno noted an uptick in the number of employees who brought their personal tablets to the organization's facilities, which span across Maine.

Connectivity looks only more important to healthcare as hospitals adopt cloud computing and health IT software vendors develop mobile applications for specific care functions.

Morris questions whether hospitals will install their software on every personal mobile device as well as service a diverse hardware array. They may outsource these tasks to the cloud to avoid "a maintenance nightmare," he says. "Are you going to install clients on iPads? Really? More people will leverage Web-based solutions."

Bruno says more physicians will adopt mobile computing as Cerner, a major health IT vendor whose EMR system her organization uses, improves its mobile app offerings.

Cerner is working on a mobile app for ambulatory settings but "they don't really have it for the inpatient setting," Bruno says. Some doctors at Eastern Maine Medical Center in Bangor are using Cerner's health IT software via a virtual desktop, but because that software was written for use with a keyboard and large monitor "it's just not elegant yet" for mobile devices. That elegance will come with a dedicated mobile app, she added.

While the place of mobile hardware and software in patient care is still being figured out, health IT doesn't lack wireless devices in the meantime. Clinical staff depend on wireless medical devices "that will ID a patient, transmit securely and not lose continuity," Morris says. "Nurses taking vital signs want to put on a blood pressure cuff, hit start and have it wirelessly transmit to the patient record."

When Eastern Maine Healthcare rolled out

▶ *See* **Hospital,** *page 16*

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TOOLS

Mountain Lion problems raise BYOD questions

Ever since I upgraded to Apple's "Mountain Lion" (Version 10.8) release of OS X I've been having a "small" problem with my iMac . . . it keeps crashing. At least once per day, OS X gives up with a kernel panic and the System Diagnostic reports either "type 13=general protection" or "type 14=page fault." For what it's worth, the last two kernel extension events are for loading and unloading com.apple.driver.AppleUSBCDC4.1.21.

Mark Gibbs' Gearhead

My iMac (which has to be my favorite computer ever) is a 27-inch, mid-2010 build with a 2.93GHz Intel Core i7 processor and 4GB of RAM. I've tried disconnecting all USB devices and I've disabled startup items but, so far, no joy. It crashes no matter what I do and, I see from online searching that I'm not alone in this.

Over on my Forbes blog I wrote about my disappointment following installing Mountain Lion and attracted the ire of the Apple fanboys, who apparently think that because they didn't have a problem it must be due to my stupidity. The reality of upgrades by any OS vendor is that things will go wrong for (hopefully) some small proportion of users, and Mountain Lion has a few problems.

Over on Macworld there's a guide for troubleshooting Mountain Lion but, alas, it doesn't address my problems. Even Apple's own support document regarding "kernel panics" (which is over a year old), only covers basic steps after which it recommends visiting an Apple retail store and making a reservation at the Genius Bar . . . which would be great except for the time that would take.

Now, I admit I am not an expert in low-level OS X stuff, so picking apart the System Diagnostic Reports trying to identify the problem has been an annoying "learning experience," and revealed, so far, absolutely nothing. I've sent the System Diagnostic Reports to Apple's PR people but, to date, I've had no feedback, and friends with a lot more OS X experience have taken a look and have not been able to figure out what's going wrong.

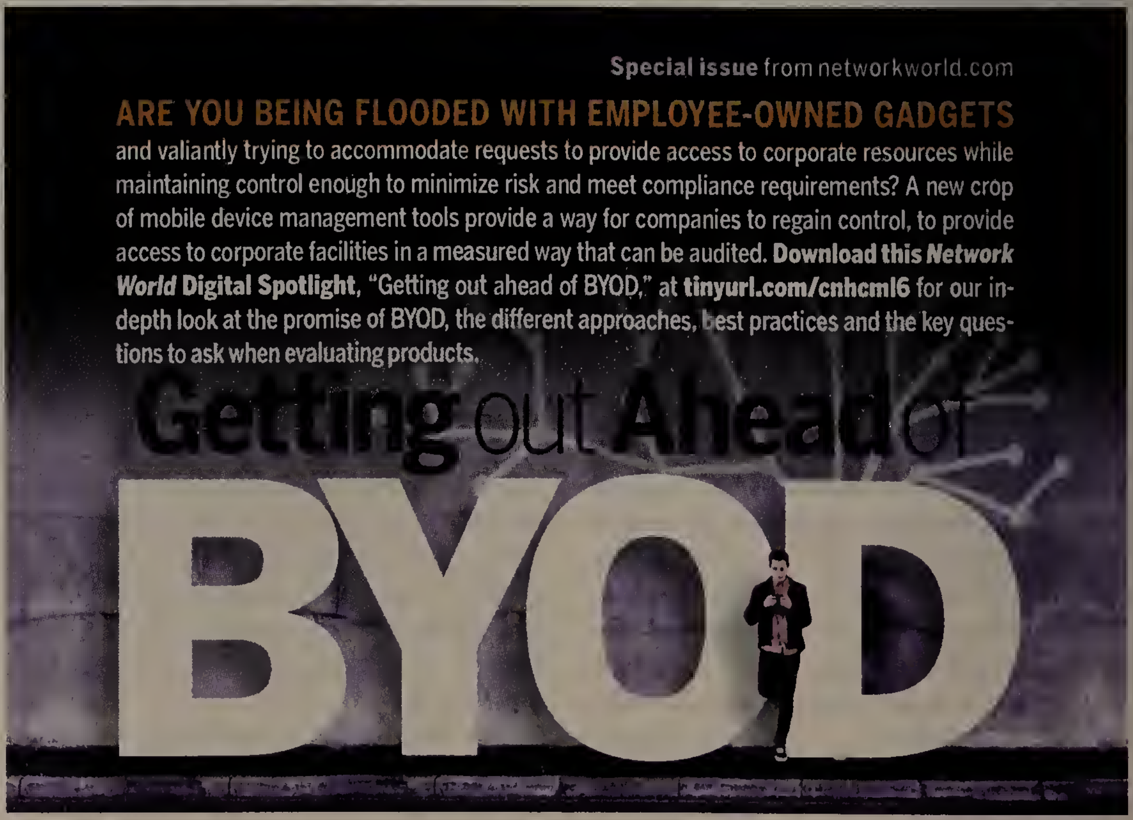
I could, of course, throw up my hands and rebuild the entire system (as some people have suggested), but I don't have a spare 72 hours and that seems a poor way to deal with the problem.

What this highlighted for me are two things: Apple isn't perfect (sorry, rabid fanboys) and organizations allowing for bring your own device (or some day hope to) may have an interesting set of problems to deal with if their users experience similar problems.

So, what do you do if your users are running your corporate apps on their own gear and, as far as you know, the apps should be compatible with an upgrade? Do you demand that they can't perform the upgrade until you've had a decent amount of time to run your own tests? And if your users experience problems, do you try to fix the issues for them, send them to the Apple store, or just tell them to rebuild their devices?

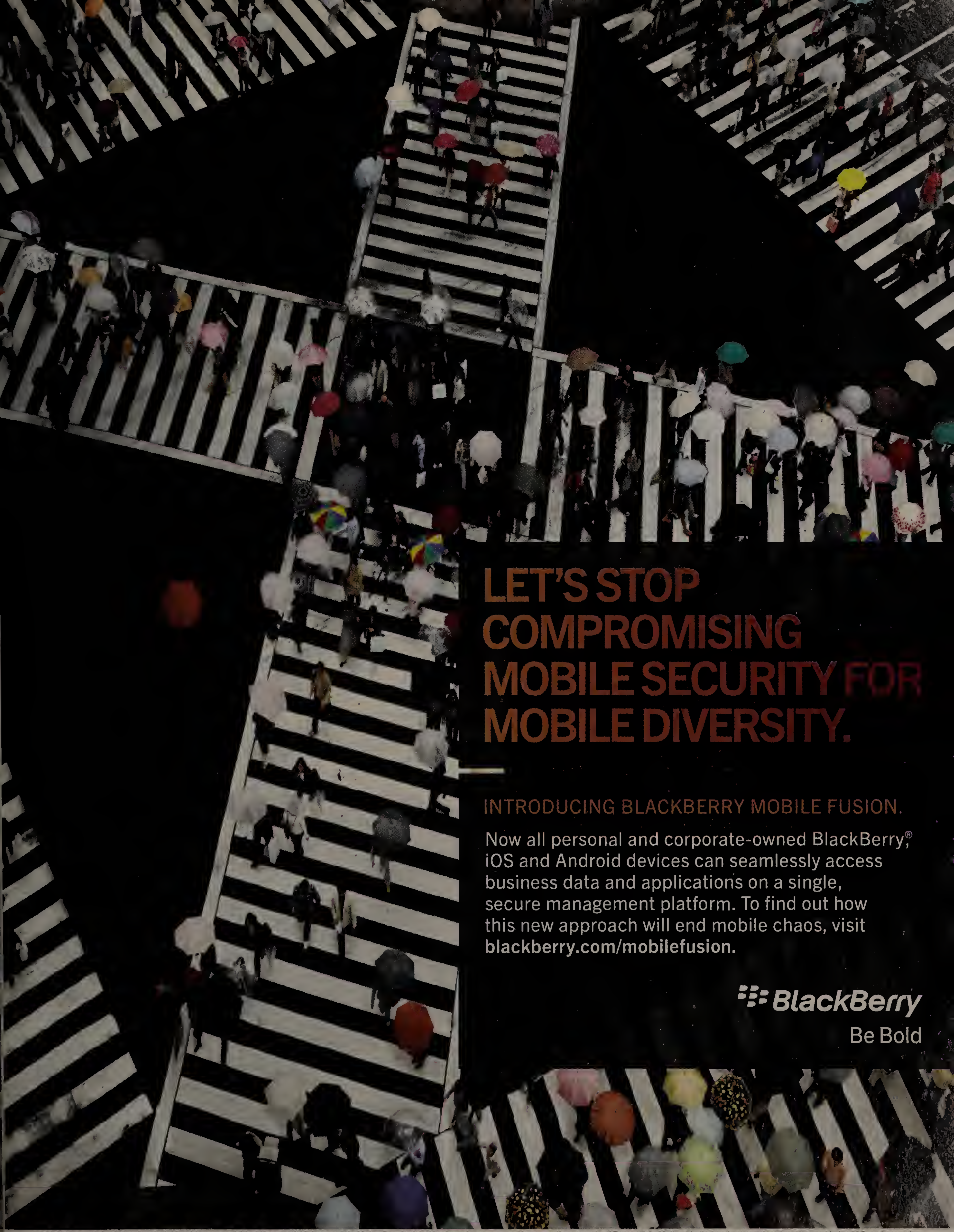
The big question is, when you have a BYOD policy, how much responsibility do you expect your users to take for keeping their devices and your corporate apps running? ■

Gibbs is, for now, stymied in Ventura, Calif. Your insights to gearhead@gibbs.com and follow him on Twitter (@quistuipater) and on Facebook (quistuipater).



Special issue from networkworld.com

ARE YOU BEING FLOODED WITH EMPLOYEE-OWNED GADGETS and valiantly trying to accommodate requests to provide access to corporate resources while maintaining control enough to minimize risk and meet compliance requirements? A new crop of mobile device management tools provide a way for companies to regain control, to provide access to corporate facilities in a measured way that can be audited. **Download this *Network World* Digital Spotlight**, "Getting out ahead of BYOD," at **tinyurl.com/cnhcml6** for our in-depth look at the promise of BYOD, the different approaches, best practices and the key questions to ask when evaluating products.



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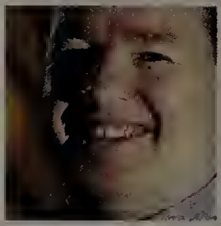
GADGETS

Linksys routers get smart (except for ‘easy setup’)



Keith Shaw’s Cool Tools

THE SCOOP

Linksys Smart Wi-Fi Router EA4500

by Cisco, about $200

▶ **What it is:** The latest series of home network wireless routers from Cisco’s Linksys brand are called “Smart Wi-Fi,” offering users the ability to configure and manage settings through smartphones and tablets or across the cloud through Cisco’s new Connect Cloud services. The EA4500 model is the high-end version (at least until later this summer, when the 802.11ac-based unit ships), providing dual-band N900 (450Mbps on two frequencies) wireless functions. This particular model aims to provide the optimal range for Wi-Fi connectivity, while also providing faster streaming for video apps from tablets, TVs and other devices within your home network.

▶ **Why it’s cool:** The addition of apps to the router is very cool — Cisco provides several easy-to-use modules within the router “dashboard,” which can be accessed through a regular Web browser or via smartphone/tablet app (on both iOS and Android platforms). For example, parental controls, guest access and adding new devices to the network can be achieved through the dashboard. A nice speed test app lets you know how fast your broadband connection is (in my case, a nice reminder that my upload speeds via cable were horrible). I also loved the Media Prioritization module, which tells the router to give high priority to specific devices as well as services. In my case, I could give priority to my wife’s MacBook Pro, the Xbox 360 game console and Netflix app (across any device).

The Cisco Connect Cloud service gives users the ability to make changes to the router across the Internet, something that previously was not possible. From my office, I can monitor the home router without being on the same internal network. If you set up routers for friends or family members, you can add their equipment to your Cisco Connect Cloud account — so the next time your father-in-law calls with a question, you can check his network from your smartphone or computer without having to drive over to his house to troubleshoot it. This feature alone makes getting a Smart Wi-Fi Router worth it.

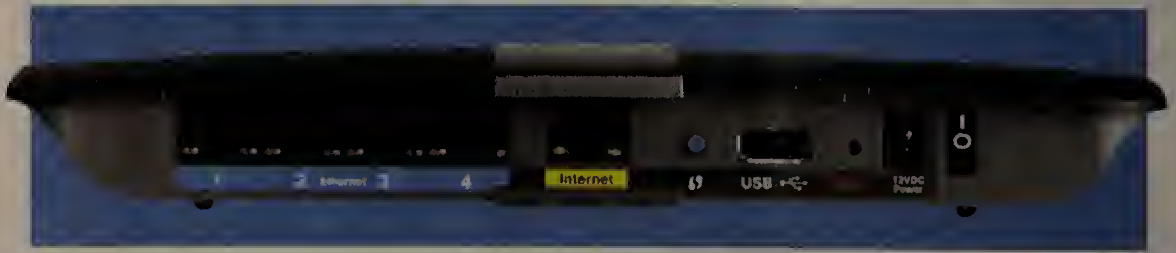
In addition, Cisco has opened up its app platform to third-party developers, which create their own apps for use with the router. One of my favorite apps was Block the Bad Stuff, which can block objectionable content at the router (spam, phishing, pornography and malware sites) at the turn of a dial (three levels of blocking available). Controlling this at the router means that you don’t have to block those sites at the individual client level (smartphone, TV, tablet, etc.).

▶ **Some caveats:** I had a horrendous time trying to install the router via the included “Easy CD” — I think Cisco sometimes makes the assumption that the user is setting up a network for the first time, and not replacing an existing router or network system. In my case, I had several powerline adapters and even a secondary wireless network (a wireless-enabled storage drive) that kept interfering with the Easy CD setup. The software didn’t recognize this, and just kept failing, rather than trying to figure out what was going on or offering other suggestions. In addition, the software required an up-and-running Internet connection — it wasn’t until I discovered that I needed to reboot my cable modem that I could finally get the router to finish its setup. In the end, the reliable method of accessing the router via IP address was more useful than the Easy Setup software.

▶ **Grade ★★★★ (out of five).**

Shaw can be reached at kshaw@nww.com. Follow him on Twitter: @shawkeith

The Cisco Connect Cloud service gives users the ability to make changes to the router across the Internet.



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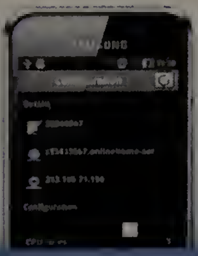

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Guide helps IT managers do the cloud ROI math

BY ELLEN MESSMER

WHEN THE time comes to get in line to ask the CFO for budget money for cloud services, will you be ready to compete with everyone else in the organization who also has their hand out? Financial managers want to see return on investment, and a guide titled "Calculating Cloud ROI: From the Customer Perspective" gives you step-by-step advice on how to do the math to argue for cloud-based services, whether public or private.

Published by ISACA, the membership organization for IT security and audit professionals, the Cloud ROI guide uses return on investment cost to estimate financial outcome. "This calculation considers both the costs of an investment and its expected gains, and yields an estimate of how favorable the investment will be," the guide points out.

In other words, says one of the Cloud ROI's authors, Marc Vael, head of internal audit at Brussels-based IT company Smals and president of ISACA's Belgium chapter, it's expected that anyone using the Cloud ROI calculation should define "gain from investment." By way of example, if there's an estimated $900,000 gain in cost savings and new revenue over a specific period of time, minus the cost of the investment, which might be $600,000, divided again by the cost, then the ROI would be said to equal 50%.

This "gain from investment" variable can include things such as "not having the infrastructure or maintenance people" that might otherwise be needed for a traditional enterprise network. It could also include the prospect of "new revenue" because the cloud provider may have a service and application that "will give you access to other markets" and "a broader global reach" than you might not otherwise have, Vael points out. This is one reason why IT professionals should always be carrying on discussions with business unit managers about cloud-based options.

The formula is expressed as:

$$\text{ROI} = \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}}$$

The ISACA Cloud ROI guide also has long list of likely expenditures associated with cloud computing, such as upfront, recurring and termination cost items. Not only might there be a question of "technical readiness" to deal with cloud use, there are various fees that might be overlooked, such as change and vendor management. There is also the question of "termination costs" to revert to an on-premises model or switch to another provider.

Some of this detailed financial information will be readily available in cloud-provider contracts, but there will also likely be times you'll need to pry this out of them, Vael acknowledges. The guide also covers "business challenges" that focus on possible negative aspects of cloud, such as "incompatibility" with corporate IT infrastructure that has to be integrated, or security and compliance issues, or fear of vendor lock-in.

The ISACA Cloud ROI guide is intended to cover service models that include infrastructure as a service, platform as a service and software as a service. It defines several characteristics, as well as deployment models defined as private, community, public and hybrid.

The other key financial concepts applied to cloud are "total cost of ownership" (intended to "uncover the lifetime costs of acquiring, operating and maintaining something") and "net present value," defined as a calculation of "the present value of an investment by the discounted sum of cash flow disbursements over a period of time," plus "internal rate of return." The ISACA guide gives these formulas, too.

While all this financial calculation may strike some as excessive, the thing to remember is that when the IT department or any business unit goes in front of the enterprise CFO or executive management to ask for money, this is exactly the type of discussion they want to hear, Vael says. ■

▶ **Hospital,** *from page 11*

upgraded clinical carts last fall its wireless coverage became "particularly important," said Bruno. These devices feature all-in-one PCs mounted to carts and are mostly used by nurses for bedside medicine verification. Nurses use barcode readers to scan barcodes on a patient's wrist band and medication to verify the person's identity, the drug, the dose and the dispensation time. This information is automatically added to a patient's chart, which ends up in the EMR.

Eastern Maine Healthcare administration and physicians aren't the only ones who need Wi-Fi. "More and more people are bringing wireless mobile devices to the facility and they want to get onto our wireless network," she says.

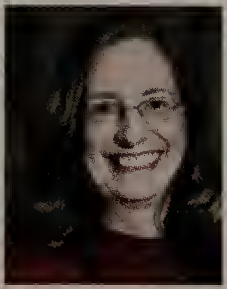
To address demand, three years ago Bruno opened the wireless network to visitors by creating a guest network and placing a firewall between that network and the one used for clinical purposes.

Even with the clamor for wireless access, wired networks have a place in health IT. In rural locations with limited telecommunication options, WANs help establish backup connectivity between hospitals and data centers, Bruno says.

"One of the challenges in Maine is that the connectivity between where some of our servers reside and our remote hospitals might be only one set of telephone poles," she says.

The organization has redundant connectivity between its Bangor, Maine, data center and the Kansas City data center that hosts its EMRs. It uses a fiber network to link its Bangor facilities, which include two hospitals, a cancer treatment center, a walk-in clinic and the data center.

Eastern Maine Healthcare is working with the New England Telehealth Consortium to build out the WAN infrastructure that will link its data center and satellite locations. This effort will give the organization "redundant lines to places where we don't have it," Bruno says.



> **"More and more people are bringing wireless mobile devices to the facility and they want to get onto our wireless network.**
>
> **CATHY BRUNO,** CIO AT EASTERN MAINE HEALTHCARE SYSTEMS

At some hospitals wired networks handle radiology images since the files' size can strain a wireless network, Kowitt says. Network traffic management then becomes an issue, he adds.

"It isn't just do you have enough network capacity," Kowitt says. "Is the network segregated to properly support the requirements [of the staff]? When moving images you may want a certain speed, but when you're dealing with normal transactions you may want to move it at a different speed." ■

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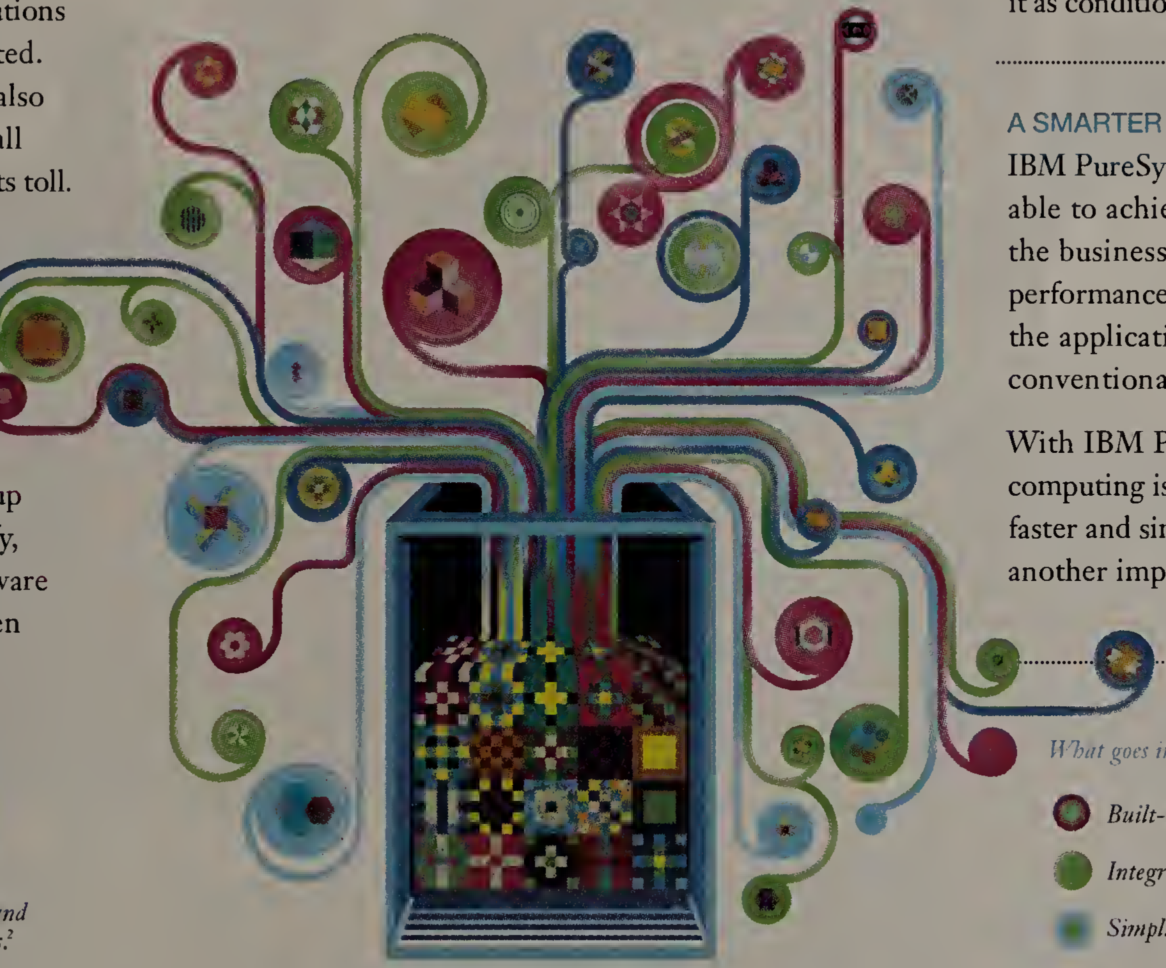

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1 Based on a 2011 commissioned study conducted by Forrester Consulting on behalf of IBM. 2. Based upon testing of the IBM PureApplication System W1500-96 with time measured from powering on the system to when it is ready to support application deployments and based upon testing of the IBM PureFlex System Express & Standard models containing one chassis and one compute node with the time measured from powering on the system to when it is ready to support a virtual image deployment. 3. Up to 2X application density based upon simulations of virtualized applications on an IBM Flex System x240 Compute Node as compared to a previous generation IBM system. The IBM Flex System x240 Compute Node is available in IBM PureFlex System and IBM PureApplication System. Up to 2X performance of business applications based upon testing of IBM Storwize v7000 "Easy Tier" on previous generation IBM system. IBM Storwize v7000 is included in IBM PureFlex System and IBM PureApplication System. IBM, the IBM logo, ibm.com, PureSystems, Smarter Planet and the planet icon are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. A current list of IBM trademarks is available on the Web at www.ibm.com/legal/copytrade.shtml. © International Business Machines Corporation 2012.

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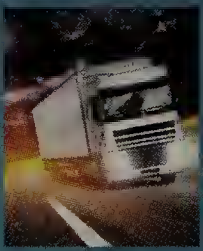

CASE STUDY

Unified communications in the cloud drives savings at trucking company.
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9 everything-as-a-service companies to watch.
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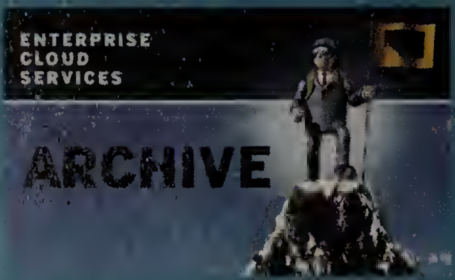

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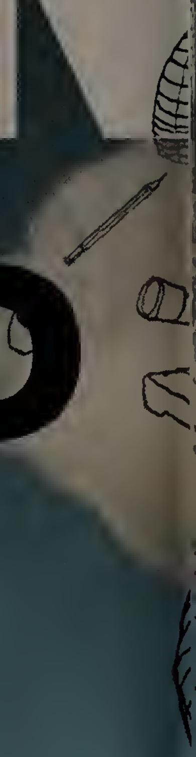

ILLUSTRATION: RED NOSE STUDIOS

BY CHRISTINE BURNS

If you follow cloud computing, you're no doubt familiar with software as a service, typically associated with Salesforce.com, or infrastructure as a service, which was pioneered by Amazon.com. But how about CaaS, SECaaS, DaaS, MaaS and BaaS?

According to industry consortium The Open Group, these new "as-a-service" acronyms fall into the category of XaaS (pronounced "zass"), a generalization for all cloud-related services per the NIST definition.

XaaS describes any service that can call up reusable, fine-grained software components across a virtualized cloud network. And if you add up the market forecasts for applications, application infrastructure and systems infrastructure to be delivered as public cloud services by 2015 worldwide, the XaaS market will reach more than $40 billion.

The most common examples of XaaS are software as a service (SaaS), infrastructure as a service (IaaS), and platform as a service (PaaS). But the "as-a-service" surname is proliferating at a dizzying rate. Here are just some of the services now available in the cloud:

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The 'as-a-service' phenomenon expands into unified communications, security, management and networking

“WHEN DOES THIS STOP BEING ABOUT A CLOUD FRENZY, AND JUST SETTLE DOWN INTO BEING A PRACTICAL WAY TO DO BUSINESS ON A DAY-TO-DAY BASIS?”

DAVID LOUNSBURY, CTO, THE OPENGROUP

- storage as a service (another SaaS)
- security as a service (SECaaS)
- database as a service (DaaS)
- monitoring/Management as a service (MaaS)
- communications, content and computing as a service (CaaS)
- identity as a service (IDaaS)
- backup as a service (BaaS)
- desktop as a service (DaaS)

David Lounsbury, CTO of The Open Group, is not a big fan of the XaaS designation. He notes that his group has been pushing a service-oriented architecture (SOA) model of computing for over a decade and points to the recently released service-oriented cloud computing infrastructure (SOCCI) framework as a guide to how SOA and the cloud are in natural alignment.

“When does this stop being about a cloud frenzy, and just settle down into being a practical way to do business on a day-to-day basis?” asks Lounsbury.

No matter the frequency with which service providers continue to slap the “-aaS” tagline on their product descriptions, industry watchers, practitioners and users contend that the practice of implementing XaaS in the future will have more to do with customers aligning their existing business practices with the basic tenants of cloud than it does with how providers may be bundling — or naming — their services.

“Cloud is more about how you consume technology to fit your business processes and less about technology itself,” says Tiffani Bova, vice president with Gartner Research. IT professionals are not sitting around wondering what type of physical server their cloud applications are running on, contends Bova. Rather, they know they can easily access those applications in the cloud and now are deciding how to build up provisions around them that address things like intelligent business processes and security and governance parameters.

Edward Newman, global practice director for Private Cloud Services at EMC Consulting, says his firm has spent the last five years trying to get clients to think more about IT services and less about individual components of the cloud infrastructure. Enterprise folks are listening. “Just as we see the DevOps side of enterprise IT looking to the cloud to get a more agile application development environment, we see the same sort of thing in the IT service management side,” Newman says.

He adds that enterprise clients are taking a hard look at IT services that were previously running in redundant silos and turning to the cloud as the means for delivering those services more coherently and economically across their organizations.

Energy Plus is an online energy retail services company that supports 185,000 customers in eight states and 100 partners in its rewards program, primarily in the cloud.

CIO Hugh Scott explains that 18 months ago the company made the decision to move from a collocation facility operated by SunGard into the cloud. The company tested cloud offerings from both Microsoft and Amazon and ultimately went with SunGard’s Enterprise Cloud and is currently running the bulk of its business processes there, including all of its public facing Web operation, its direct marketing applications and its enrollment engine.

“I doubt that we’d ever put the secret sauce up in the cloud — for us that would be our back-end awards program — because we would not want to run with a commoditized version of that. But everything else is up for discussion. We’ll jump at cloud-based offerings that can help up grow quickly and give us more flexibility in our business practices,” Scott says.

Joseph Coyle, CTO of IT consultancy Capgemini, contends there are several XaaS categories that are becoming popular in the midsize enterprise because they are either easy services to outsource (UCaaS); they have become a requirement if IT has chosen to operate in the cloud (MaaS); or are more mature than the word on the street gives them credit for, like network as a service (NaaS).

According to Gartner research director Daniel O’Connell, UCaaS is a logical business process to outsource, especially if an enterprise is highly distributed and looking to upgrade from a legacy PBX. “With a UCaaS contract, you wipe out the capex expenses, a third party can supply the service more cheaply than you can build it, and the internal staffing requirements will be very low,” O’Connell says.

Ken Strohschein, vice president of IT for Great Expressions, a chain of 170 dental clinics in Michigan, Georgia and New York, made the decision two years ago to use West IP Communications’ VoiceMaxx cloud offering with full PBX functionality, advanced enterprise and personal call management tools and leading-edge unified communications features.

“We grow by acquisition. Two years ago, we had 67 contracts across nine providers and had 25 different PBX systems running,” explains Strohschein. “The decision to use a cloud-based unified communications system was an easy one to make as we moved to consolidate our telephony services.”

Great Expressions did have to make some modifications to its underlying network infrastructure in order to implement cloud-based telephony service to all of its clinics. But the company is saving upwards of $40,000 per year and is enjoying a unified monitoring window into its overall UCaaS services .

The Gartner UCaaS Magic Quadrant report released late in 2011 failed to identify a clear leader in North America, which might deter larger enterprises from jumping in. The companies Gartner identified as challengers are Microsoft, Verizon, Cisco, Google, AT&T and West. The visionaries included M5 Networks (since purchased by ShoreTel), Thinking Phone Networks, Cypress Communications and PanTerra Networks.

“The problem with the market at this point is that the companies we believe have the ability to scale, don’t necessarily have all the pieces of the complete UCaaS picture in place yet,” O’Connell says. He added that Microsoft is poised to shake up this market as Office 365 gains traction,

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and if the Redmond giant can convince IT that its underlying VoIP technology can deliver the uptime enterprises require.

Microsoft is quick to rebut criticisms of its linchpin UCaaS technology — Lync 2010. Group product manager B.J. Haberkorn notes that just one year after its release (in December 2011), Microsoft could boast that 3 million enterprise users.

"The basic underlying telephony is pretty well understood across the industry. We didn't need to set out to solve that problem because it was already solved. Our customers are coming to us because they are looking for the cloud-based VoIP that has natural integration with their applications," Haberkorn says.

Monitoring/mgmt. as a service

One of the fundamental fears of enterprise IT moving to the cloud has been the lack of visibility into applications and the underlying health of the cloud networks.

"There is a huge opportunity for cloud service providers to serve up some real-time analytics of what is happening in the cloud," says Chris Smith, a marketing executive at Cambridge, Mass.-based Cloud Technology Partners.

Applications running in the cloud are by definition highly distributed across available computing resources. "So what that creates is an incredible dependency upon the application communications over the network in a way that we've never seen before," adds Molly Stamos, director of products at Silicon Valley startup Boundary, which is focused on providing continuous visibility into network and application traffic flows in public cloud.

Stamos stresses the real-time nature of her company's monitoring — as opposed to other products that take a sampling of application health — because "the difference between knowing what is happening with your application after two seconds of downtime versus five minutes could prevent a lot of lost revenue," Stamos says. Obviously, collecting data at this rate means Boundary also must offer a very high-capacity data analytics engine. Stamos contends the Boundary system can currently handle 17 billion records and the engineering team is looking to increase that capacity to a half trillion records per day by the end of the year.

HP, a longtime player in the network monitoring and management, contends that MaaS must support applications that span both public and private cloud and have ties to on-premise systems as well.

"Our customers are now operating in converged cloud networks and they need to have a single pane of glass with which to see how their hybrid applications are functioning and manage them accordingly," says Manoj Raisinghani, director of product marketing at HP.

There are a slew of startups also targeting a unified monitoring and management scheme across cloud platforms.

RightScale, a multi-cloud management company in Santa Barbara, Calif., that allows users to provision servers and applications across multiple clouds, says 68% of its customer cloud usage comes from customers using more than one cloud provider and cloud type. The company polled its customer base in April and May.

"It's a heterogeneous world of layers and players, and to be useful as a management services provider, you've got to handle them all," says RightScale CEO Michael Crandell. Currently, RightScale's management service can tap into a baker's dozen of clouds including EC2, Rackspace, Microsoft Azure and HP Cloud Services.

RightScale customer Reza Rassool, CTO of Music Mastermind, says his company needs to stay as cloud agnostic as possible so that it can move operations to whatever cloud makes economic or technological sense. Rassool was completely satisfied with how the RightScale service allows his engineering team to manage workflow between the public cloud and Music Mastermind's private cloud. On his wish list, though, is a more consolidated view of application performance from the same dashboard.

Another player in the multi-cloud management arena is enStratus. James Urquhart, vice president of product strategy, argues that the hardest part about the multi-cloud management puzzle is not configuring applications across multiple clouds. "It is understanding the relationships between the components of the applications running in the different clouds. If I change something in the application running on Force.com, does that negatively affect something I've got running in the Amazon cloud?" Urquhart says.

The network in the cloud

Generally speaking, the concept of NaaS allows carriers to deliver cloud-based networking services like routing, tunneling, quality of service, and network address translation using the Internet on a subscription basis without requiring customers to have on-premise gear dedicated to those functions.

Instead of having a networking staff that is doing things like configuring firewalls and provisioning servers to pass through certain types of networks, it's all handled in the cloud. There is a cost savings to taking up NaaS over maintaining a traditional network, but Capgemini's Coyle argues the main reason a large company is going to buy NaaS is because they want to get out of the IT business.

Traditional networking companies have only dabbled in the idea of NaaS. Cisco proposed NaaS parameters to the OpenStack open source IaaS project in the spring of 2011 but has made no announcements on the topic since. Cisco did, however, throw $100 million in financing at virtual networking startup Insieme in April. Juniper rolled out last fall what it calls Junosphere Lab, calling is a NaaS offering, but that service only gives customers subscription-based access to a virtual network testing lab, not a full-on networking service.

NaaS has been recently thrust into the cloud limelight since VMware scooped up virtual switch vendor Nicira for $1.26 billion late last month. That purchase price is 25 times more than the $50 million in financing Nicira had amassed to build its software-defined networking product and represents a huge bet for the server virtualization company on what the next big thing in cloud computing will be.

In an interview before VMware announced the acquisition, Nicira Vice President of Marketing Alan Cohen was already bullish on the prospects of Nicira's chances in the cloud. "I think the idea of infrastructure as a service will disappear as both local and cloud-based networking become simply, well, networking," Cohen says. ■

Burns is a freelance writer and editor who has over 15 years experience covering the networking industry. She can be reached at cburns1227@googlemail.com.

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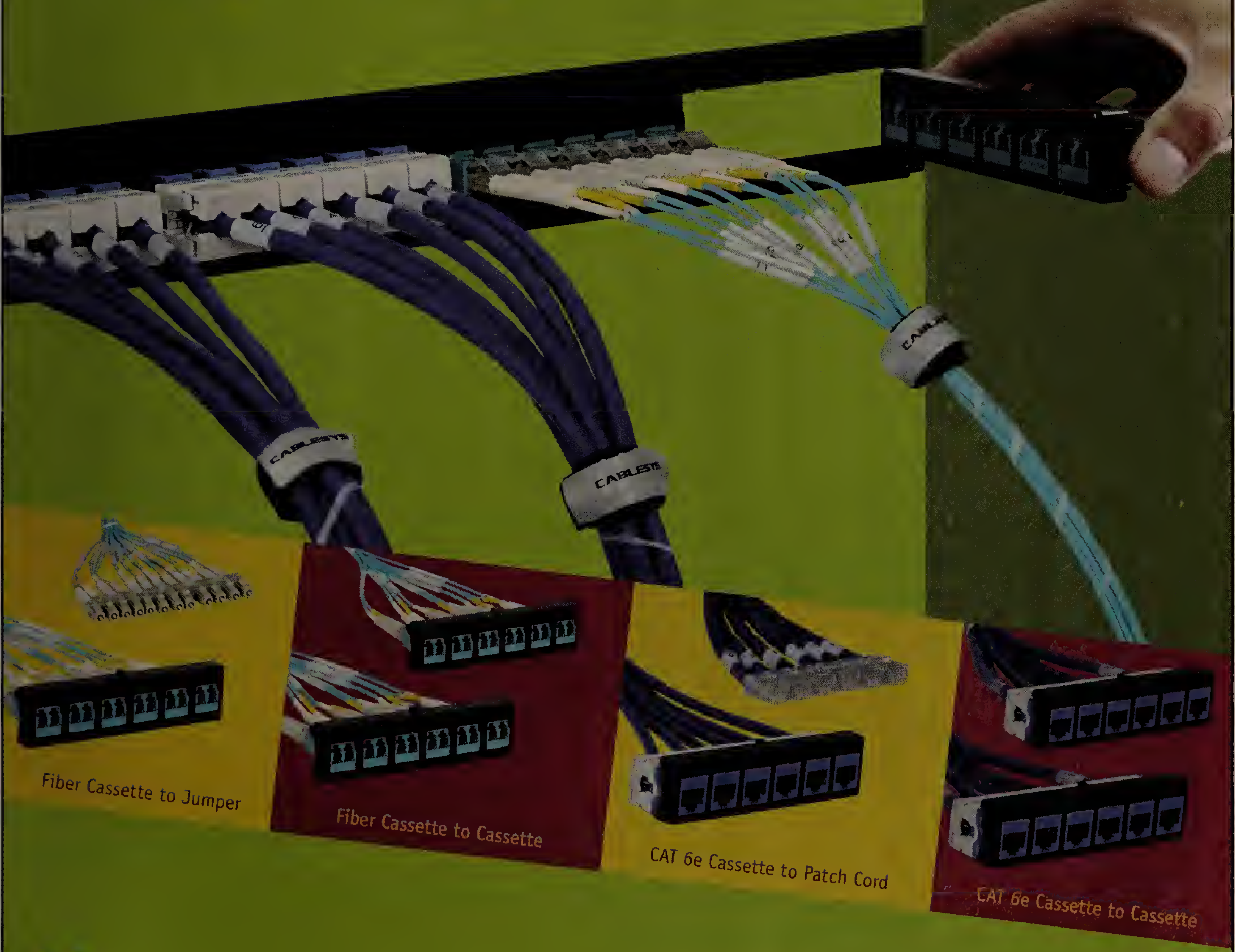
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HENDRICKSON KEEPS TRUC

UCaaS

Unified communication in the cloud **drives cost savings**

BY CHRISTINE BURNS

Hendrickson International Corporation is a leading global supplier of truck, tractor, bus and recreational vehicle suspension and heavy-duty spring components to the commercial transportation industry.

CIO Rick Johnson will readily describe both the company's products and its manufacturing processes as innovative and state of the art. But when he was asked to categorize the privately held, 95-year-old company's outlook on the use of cutting-edge IT products and services, he had to say it was rather conservative overall.

But Johnson, who has led the Hendrickson IT team for five years, said cloud-based unified communications as a service (UCaaS) was not a hard sell at Hendrickson because it both provided an economical upgrade to the company's outdated and cumbersome Fujitsu PBX and it paved the way for more plausible cloud-based applications across the company in the future.

Hendrickson has close to 20 manufacturing, customer service and product development centers in the United States, Canada, Mexico, the United Kingdom, Spain, Australia and the Pacific Rim. It also has locations in New Zealand, Thailand, Brazil and China.

About a year ago, Hendrickson sought to enhance communication and collaboration among its distributed workforce by moving off its antiquated, expensive, premises-based communications system, because the system offered only limited applications, too little in terms of integration capabilities and no growth capacity. The company also needed to replace legacy analog telephone lines and wanted to utilize videoconferencing between offices and manufacturing facilities as well as with customers, business partners and sales prospects.

After a due-diligence comparison of the options, Hendrickson ran with ThinkingSuite, a service offered by Thinking Phone Networks — which Hendrickson pairs with Polycom desktop phones and video bridges. ThinkingSuite combines a powerful business analytics engine for process and workflow visibility, third-party application integration to help merge previously stand-alone systems, and best-in-class UC applications including voice, video, mobility, analytics, IM/presence, contact center, unified messaging and audio/Web collaboration.

In taking in the real cost of the ThinkingSuite deployment versus the purchase of upgraded, on-premise VoIP software and hardware and the continued telecommunications costs, Johnson says that "while the difference was not exactly half the price, it was pretty close to that mark."

Johnson says the service — which is currently rolled out to more than 500 users and will be expanded to 1,200 users when it is completed later this year — has surpassed Johnson's expectations in terms of call clarity, disaster recovery parameters and management and monitoring capabilities.

All of Hendrickson's sites have a primary connection to Thinking Phone's data center in Cambridge, Mass., and a backup connection to a second data center in San Francisco. To test the redundancy measure, Johnson's team pulled the circuit to the Cambridge site. Johnson says the service dropped all the calls that were active when the circuit was pulled as expected, and, on cue, within seconds Hendrickson's UCaaS was restored via the San Francisco data center connection.

To help ensure call clarity for both the phones and the audio and video bridge services Hendrickson subscribes to, Johnson's team has implemented quality-of-service parameters on the company's MPLS so that voice traffic is a Class 1 and is always protected from bandwidth issues.

"If there is an issue with a call, say either the timbre or the tenor doesn't sound quite right, we can interact with Thinking Phone's customer service immediately and they get to the root cause. They are very responsive," Johnson says.

Thinking Phone's responsiveness is rooted in its ThinkingAnalytics application module which currently comes with every ThinkingSuite subscription, explains David Powers, Thinking Phone vice president of marketing.

ThinkingAnalytics aggregates a common set of data from core ThinkingSuite unified communications applications as well as from third-party business applications such as Salesforce.com and Microsoft Dynamics CRM to provide a single vision of organizational health, operational processes and customer interactions.

ThinkingAnalytics delivers cross-functional insights through pre-built reports and queries to commonly asked questions. Guided analysis helps streamline cause-and-effect analysis to determine the root cause of issues and develop best-practice behaviors to solve problems.

Hendrickson has yet to integrate the Thinking Phone service with the Microsoft suite of productivity applications other than opting to have voicemail delivered to users via the Outlook mail client, but Johnson does hope to explore the available connections once the company has upgraded to Office 365 later this summer.

Johnson says the success his company is enjoying with UCaaS will help him pave the way for future cloud-based services in the realm of UCaaS (think more support of mobile devices) at Hendrickson where they make sense.

"Before deploying the Thinking Phone service, I was dealing with some apprehension from both management and the IT team about both security issues and loss of control issues," Johnson says. Post-deployment, he feels he's got plenty of solid data with which he can convince upper management to open up the company's other business processes to the cloud.

To prepare for that eventuality, Johnson says his team is making sure the company's underlying network is up for the challenge in terms of adequate bandwidth — especially considering 4G service for the last mile, high performance, plenty of redundancy and maintaining relationships with multiple carriers.

"Basically, we're doing everything we can to make sure that as more of our applications get moved outside of the four walls of our data center that we are ready to provide the same if not better class of services to our end users," Johnson says. ■

NEUROSURGEON

DR. J. MICHAEL DESALOMS ↑ says conducting surgical follow-up exams with his practice's Microsoft Lync-driven unified communications-as-a-service platform is saving rural patients time and money and gives him time to see more patients.

PHOTO: STEWART COHEN

Microsoft delivers missing Lync for telemed project

AS Microsoft works to convince corporate IT that the underlying VoIP technology in its Lync unified communications platform has the chops to support the slew of applications the Redmond giant has built on top of it, there's no shortage of smaller-scale customers deploying it for interesting uses.

Take telemedicine in North Texas, for example.

US Medical IT is an IT project management firm that helps medical practices implement technology. Managing Partner Stephen Cracknell recommended Windows 365 and its accompanying UCaaS underpinnings to the doctors of Dallas Neurosurgical & Spine (DNS).

The doctors were looking for a better way to share high-fidelity images (which Windows 365 supports) with other specialists, as well as with patients' primary care doctors, and were interested in using telemedicine to give post-surgical care to patients in rural areas.

US Medical IT constructed the solution by using off-the-shelf hardware, including a high-end IP security camera from Axis Communications. With the security camera, DNS specialists can use a joystick to control the field of view in the exam room, located more than 100 miles away from the team's Dallas office.

With this setup, the specialist can view and manipulate MRI images on the remote computer and use the camera to conduct physical examinations while discussing the observations with the patient or the remote physician.

To use the system, the local physician schedules a consultation with the specialist, and the patient brings the MRI images to the local office. Both the specialist and the local physician log on to their Lync Online accounts, which are provisioned by US Medical IT. The local physician can then simply share the desktop and allow the specialist to manipulate the patient's MRI images, while simultaneously sharing high-definition video through the IP camera. All communication happens over a secure line to comply with the Health Insurance Portability and Accountability Act (HIPAA).

According to Cracknell, the only technological hurdle DNS had to overcome was making sure there was enough bandwidth available at the outposts so that the high-density images could be shared.

An IT Expert's WORST FEAR & How MovinCool Averted DISASTER

Eric Rieger, President of WEBIT Services, had a major server room emergency after three off-the-shelf A/C units quit. Now he has a MovinCool Office Pro 12. And greater peace of mind.

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For computer servers to operate properly, they've got to be kept cool. Which was Eric Rieger's intention when he purchased three retail A/C units from a local "big box" store. Rieger, President of WEBIT Services, a managed technology services provider in the Chicago area, thought he had found an ideal solution. But all three subsequently failed. The last one on Christmas Day. After quickly contacting his local distributor, Rieger chose a MovinCool Office Pro 12. "Its performance and reliability are impressive," he reports. "And the peace of mind it delivers is priceless."

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EVERYTHING AS A SERVICE (XaaS) describes, well, everything that can be offered as a cloud-based IT service. It's a pretty wide swath of service categories with a long list of products in each. To narrow the field a bit, we asked industry analysts and practitioners to list the companies they are watching in the three XaaS categories that are currently bubbling to the top in terms of enterprise interest: unified communications as a service (UCaaS), monitoring/management as a Service (MaaS) and network as a service (NaaS).

NINE POWERFUL 'EVERYTHING-AS-A-SERVICE' (XaaS) COMPANIES TO WATCH

BY CHRISTINE BURNS

1 || M5 Networks **XaaS Category > UCaaS**

WHY WE'RE WATCHING: ShoreTel picked up this startup (which previously had about 2,000 customers) back in February to quickly offer UCaaS to customers looking to deploy IP communications through a hosted model. We're watching to see how quickly ShoreTel customers are going to jump into the cloud.

CONTINUED ON PAGE ➔ 30

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CONTINUED FROM PAGE 28

2 || Microsoft

XaaS UCaaS
WHY WE'RE WATCHING: Not exactly a startup, we have to admit. But we're watching to see whether the proliferation of Office 365 makes Microsoft's underlying UCaaS engine, Lync, a no-brainer.

3 || Thinking Phone Networks

XaaS Category > UCaaS
WHY WE'RE WATCHING: Thinking Phone has been named as a visionary twice by Gartner. We're watching the company because it has placed a strong focus on providing a deep-dive analytics engine that helps enterprises understand how their cloud-based unified communications is operating across the company.

4 || Boundary

XaaS Category > MaaS
WHY WE'RE WATCHING: It's all about real-time monitoring with the Boundary cloud application monitoring offering by the same name. The company deploys agents on an enterprise's applications running in the cloud that examine every packet they see cross the application. So, the devil is in the details on this one. We're watching to see if the company can hit its goal of being able to analyze 17 billion records per day by the end of the year, and then serve up useful information to customers on just what their cloud applications are doing.

5 || enStratus Networks

XaaS Category > MaaS > WHY WE'RE WATCHING: enStratus is focused on providing a unified management platform for hybrid cloud environments so that enterprise IT departments have a way to orchestrate virtual infrastructure available online with what's existing within their own data centers. Seeing as hybrid clouds are corporate reality, we're watching to see how quickly the company can amass IaaS partners to give customers more choice in who they can build hybrid clouds with while maintaining centralized control.

6 || RightScale

XaaS Category > MaaS
WHY WE'RE WATCHING: RightScale is sitting on a very interesting perch in the scheme of the cloud: right in between cloud users and their cloud infrastructure-as-a-service providers, multiple providers, in fact. RightScale has struck up partnerships with a dozen cloud providers so that subscribers can manage all of their cloud infrastructure from a single, integrated pane.

7 || Big Switch

XaaS Category > NaaS
WHY WE'RE WATCHING: Back in January, Big Switch released an open source controller based on OpenFlow, a switching and communications protocol that handles packet routing on a software layer, separate from the physical network infrastructure. We're watching to see if the open source move will attract application development around the controller before the company releases a commercial version later this year.

8 || Insieme

XaaS Category > NaaS
WHY WE'RE WATCHING: This is the software-defined network (SDN) company that Cisco invested $100 million into this spring. Insieme is still operating in stealth mode, but should Cisco choose to buy the company once its product development is more mature, it will signal that Cisco is serious about embracing SDN.

9 || Nicira

XaaS Category > NaaS > WHY WE'RE WATCHING: VMware paid 25 times more than what this startup had amassed in venture capital funds for this tiny company, which has built a virtual networking engine out of open source software. We'll be watching to see what VMware does with its new networking division.

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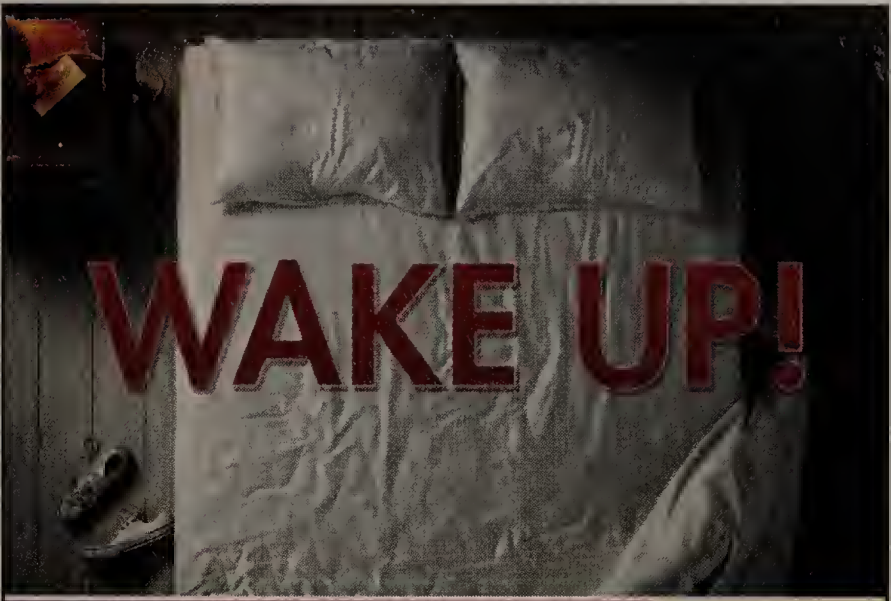

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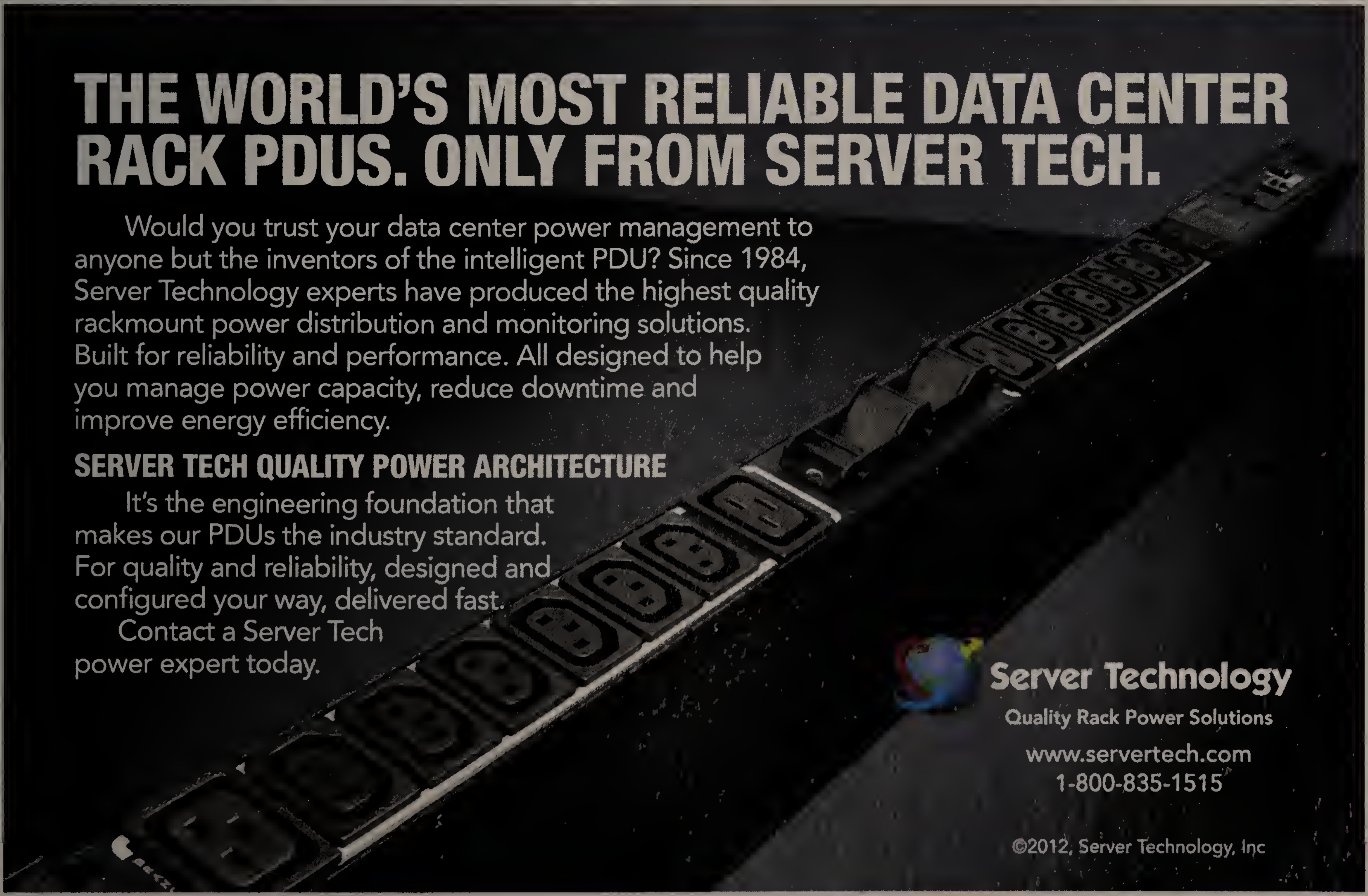

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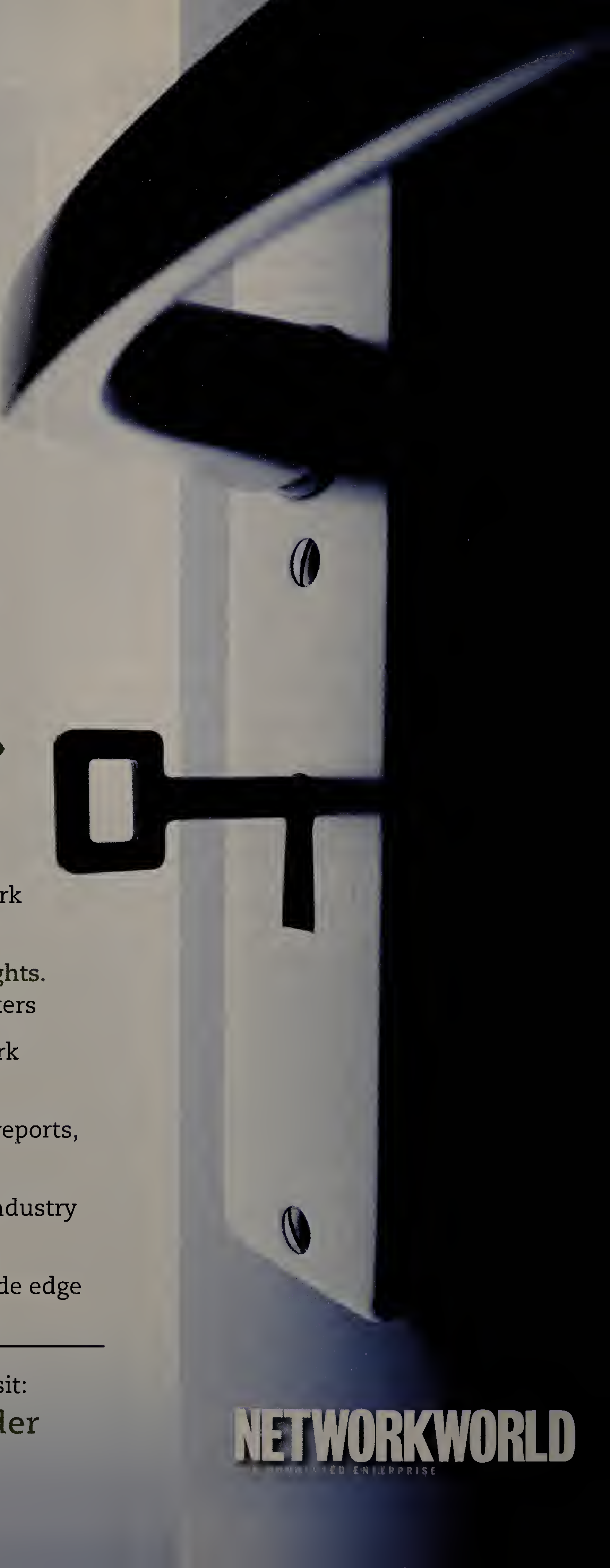

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BACKSPIN | BY MARK GIBBS

Organizational knowledge and temp staff

YOUR ORGANIZATION does stuff. You buy things, you make things from the things you bought, you write things, you send out invoices for things you've sold . . . there are thousands of things you do and these procedures are what drives your business.

In most organizations there will usually be a lot of informal procedures that are passed on from one person to another, along with far fewer formalized procedures enshrined in computer software, procedures such as accounting, CRM and ERP. These documented and undocumented procedures are called "organizational knowledge."

There are serious problems with having too many informal procedures and one of the biggest is when employees leave the organization, taking with them the understanding of those undocumented procedures and, as a consequence, making the organization a little "dumber."

Even if employees train their replacements, some portion of their knowledge will be lost. This lost knowledge is particularly important in "edge cases," where exceptions and novel situations arise where special responses and actions are required.

The other part of organizational knowledge that gets lost unless it is actively and intelligently captured and then strategically filed is history: The "Why/How/When did we do that?" of the organization.

My friend Ted who runs IT for the Ventura Unified School District told me an example of the consequences of a lack of organizational memory: A cable company they had a deal with for co-use of optical fiber recently made claims of ownership of said fiber.

Ted remembered the deal but, because no one had ever collected all of the original paperwork generated by multiple government agencies, he had to sift through archives to reconstruct the governance history to prove the cable company wrong. Had Ted not remembered the original deal, the cable company would have taken possession of a valuable resource it didn't have a right to and the school district would have lost a lot of money. Ted retires at the end of this year.

Now, in this crappy economic climate many full-time positions are being replaced by temporary workers. The reason is temps are cheaper — they are usually paid hourly wages without benefits — and easier to manage (they can be dismissed at any time).

While this trend has become well-established in areas such as warehousing and the building industry, it has also become commonplace at higher corporate levels, and IT temporary staff can include programmers, analysts, project managers and even CIOs.

While temporary staff have their advantages when real short-term needs exist, the tendency to keep temps on for longer periods (which is being seen in both blue- and white-collar environments) as a hedge against changing economic realities will have a long-term side effect: The organizational knowledge that should accumulate and guide future actions will, at best, be severely diminished. At worst, it will be more-or-less lost completely.

If you're in a senior position in an organization, think carefully before you go down the temp route because it will ultimately impact your organizations' knowledge and the future consequences could be very costly. You need Teds, not temps. ■

Gibbs is permanently in Ventura, Calif. Tell gearhead@gibbs.com your status and follow him on Twitter (@quistuipater).

NETBUZZ | BY PAUL MCNAMARA

A phishing tale about the one that got away

I KNEW immediately that the email appearing to be from US Airways was actually a phishing attempt because it asked me to confirm a flight I had not booked from a city near which I do not live.

But despite that instantaneous recognition of a scam, alarm bells began clanging anyway for one simple reason: I had flown on US Airways on vacation less than two weeks prior — for the first time in, well, close to if not forever — and so I assumed that the scammer had copped my email address from the airline sometime since that transaction.

And, if they got my email address, who's to say they didn't get my credit card? (Beads of sweat begin to pool on forehead.) So might this obviously spoofed email also be an indicator that someone had commandeered my plastic privileges?

A little Googling quickly made matters worse, as it turned up an April story in *USA Today* that confirmed that US Airways customers were being targeted in this exact manner. The phishing email cited in the story was almost identical to one that I received, and that was almost identical to the authentic one that US Airways did actually send to me.

Moreover, US Airways acknowledged in April that its customers were being targeted, and the airline had posted a warning notice on its website.

Since the news story was from April and I booked my flight mid-June, two conclusions seemed probable if not inescapable: My address was grabbed just recently . . . and US Airways was not only the victim of a data breach, but what appeared to be an ongoing one (OK, that last part would be the silver lining, professionally speaking, in that at least I'd get a good story out of the whole mess).

Oh, sure it could be a corker of a coincidence, but what are the odds when the alternative is that my life is about to become a roiling cauldron of identity-theft hell. (Just to be sure, I had emailed our IT department asking if they'd seen any US Airways-related phishing around here recently.)

Then I decided to run all of this by one of my colleagues — a level-headed sort — and he agreed that things looked grim for me and great for that story that I would get to write. We discussed the coincidence possibility, briefly, but I could tell that he was just offering what meager comfort he could.

Next I started looking for contact information for the US Airways public relations department, determined as all get-out to at least get that story cooking before canceling my credit card.

But before I could even find the PR contact, into my inbox dropped this reply from our IT guy: "We have been seeing an increase with USAir Phishing attempts within the past few days. This follows on recent phishing attempts from other airline brands like American, Delta and Virgin."

Oh.

And then my level-headed colleague popped his head into my office: "Just got three of them — USAir phishing emails — right in a row."

Oh.

Seems it was a coincidence after all. And never have I been so happy to see a big story wriggle off the hook. ■

Have your own harrowing tale to tell? The address is buzz@nww.com.

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